

AMENDMENTS TO THE CLAIMS

1-8. (Cancelled)

9. (New) An electrolytic processing apparatus, comprising:

a holder for detachably holding a workpiece;

a processing electrode operable to move to a location adjacent to the workpiece to be held by said holder such that said processing electrode faces the workpiece;

a feeding electrode for feeding electricity to the workpiece held by said holder;

an ion exchanger located in at least one of (i) a first space between the workpiece and said processing electrode, and (ii) a second space between the workpiece and said feeding electrode;

a fluid supply section for supplying a fluid into at least one of the first space and the second space in which said ion exchanger is located, said ion exchanger being operable to promote dissociation of molecules of the fluid;

a power source for applying an electric current or a voltage controlled at a constant value between said processing electrode and said feeding electrode;

a drive section for moving the workpiece to be held by said holder and said processing electrode relative to each other while said processing electrode faces the workpiece; and

a numerical controller for effecting numerical control of a speed of the relative movement between the workpiece to be held by said holder and said processing electrode via said drive section so as to thereby control electrolytic processing of the workpiece, said numerical controller being programmed to effect the numerical control by:

measuring the form of the workpiece before processing;

inputting coordinate data based on the measured form and based on an intended form after processing of the workpiece; and

determining a processing amount corresponding to the coordinate difference between the measured form and the intended form.

10. (New) An electrolytic processing apparatus, comprising:

- a holder for detachably holding a workpiece;
- a processing electrode operable to move to a location adjacent to the workpiece to be held by said holder such that said processing electrode faces the workpiece;
- a feeding electrode for feeding electricity to the workpiece to be held by said holder;
- an ion exchanger located in at least one of (i) a first space between the workpiece and said processing electrode, and (ii) a second space between the workpiece and said feeding electrode;
- a fluid supply section for supplying a fluid into at least one of the first space and the second space in which said ion exchanger is located, said ion exchanger being operable to promote dissociation of molecules of the fluid;
- a power source for applying an electric current or a voltage controlled at a constant value between said processing electrode and said feeding electrode;
- a drive section for moving the workpiece to be held by said holder and said processing electrode relative to each other while said processing electrode faces the workpiece; and
- a numerical controller for effecting numerical control of a stop time in a relative step movement between the workpiece to be held by said holder and said processing electrode via said drive section so as to thereby control electrolytic processing of the workpiece, said numerical controller being programmed to effect the numerical control by:
 - measuring the form of the workpiece before processing;
 - inputting coordinate data based on the measured form and based on an intended form after processing of the workpiece; and
 - determining a processing amount corresponding to the coordinate difference between the measured form and the intended form.

11. (New) An electrolytic processing method, comprising:

- holding a workpiece by a holder;

arranging an ion exchanger in at least one of (i) a first space between the workpiece held by the holder and a processing electrode, and (ii) a second space between the workpiece and a feeding electrode;

positioning the processing electrode so as to face and be located adjacent to the workpiece held by the holder while feeding electricity from the feeding electrode to the workpiece;

supplying a fluid into at least one of the first space and the second space in which the ion exchanger is located such that the ion exchanger promotes dissociation of molecules of the fluid;

applying an electric current or a voltage controlled at a constant value between the processing electrode and the feeding electrode; and

moving the workpiece held by the holder and the processing electrode relative to each other while the processing electrode faces the workpiece and while numerically controlling a speed of relative movement between the workpiece held by the holder and the processing electrode so as to thereby control electrolytic processing of the workpiece, said numerical control being performed by:

measuring the form of the workpiece before processing;

inputting coordinate data based on the measured form and based on an intended form after processing of the workpiece; and

determining a processing amount corresponding to the coordinate difference between the measured form and the intended form.

12. (New) An electrolytic processing method, comprising:

holding a workpiece by a holder;

arranging an ion exchanger in at least one of (i) a first space between the workpiece held by the holder and a processing electrode, and (ii) a second space between the workpiece and a feeding electrode;

positioning the processing electrode so as to face and be located adjacent to the workpiece held by the holder while feeding electricity from the feeding electrode to the workpiece;

supplying a fluid into at least one of the first space and the second space in which the ion exchanger is located such that the ion exchanger promotes dissociation of molecules of the fluid;

applying an electric current or a voltage controlled at a constant value between the processing electrode and the feeding electrode; and

moving the workpiece held by the holder and the processing electrode relative to each other while the processing electrode faces the workpiece and while numerically controlling a stop time in a relative step movement between the workpiece held by the holder and the processing electrode so as to thereby control electrolytic processing of the workpiece, said numerical control being performed by:

measuring the form of the workpiece before processing;

inputting coordinate data based on the measured form and based on an intended form after processing of the workpiece; and

determining a processing amount corresponding to the coordinate difference between the measured form and the intended form.